

DoD Global, Laboratory-Based, Influenza Surveillance Program



USAF School of Aerospace Medicine

2014 - 2015

Cumulative Results

Season

Locations	39
Collected	119
Tested	71



Respiratory Highlights

28 September - 11 October 2014 (Surveillance Week 40 & 41)

- During 28 September - 11 October, a total of 119 specimens were collected and received from 39 locations. Results were finalized for 71 specimens from 31 locations. During Week 40, three influenza A(H3N2), one influenza B, and one influenza B & rhinovirus/enterovirus co-infection were identified. During Week 41, one influenza A/not subtyped and one influenza B virus were identified. See Table 1 below for results of other respiratory viruses.
- The U.S. is currently experiencing a nationwide outbreak of enterovirus D68 (EV-D68) associated with severe respiratory illness. From mid-August to 16 October 2014, the Centers for Disease Control and Protection (CDC) or state public health laboratories have confirmed a total of 798 people in 46 states and the District of Columbia with respiratory illness caused by EV-D68. The CDC expects EV-D68 infections will likely begin to decline by late fall. For more information or to view states with confirmed cases [click here](http://www.cdc.gov) (cited from www.cdc.gov on 16 October 2014).

Table 1. Results by region and location for specimens collected during Week 41

Region*	A(H3N2)	A/not subtyped	B	B & Rhino/Enterovirus	Adenovirus	Coronavirus	Parainfluenza	Rhinovirus/Enterovirus	Adeno & Rhino/Enterovirus	M. pneumoniae & Rhino/Enterovirus	No Pathogen	Total
PACOM												
CFA Okinawa, Japan	-	-	-	-	-	-	-	-	-	-	-	1
Eielson AFB, AK	-	-	1	-	-	-	-	1	-	-	-	2
JB Elmendorf-Richardson, AK	-	-	-	-	-	-	-	-	-	-	-	1
JR Marianas - Andersen AFB, Guam	3	-	-	-	-	-	-	-	-	-	-	3
Region 1	-	-	-	-	-	-	-	-	-	-	-	1
USCG Academy, CT	-	-	-	-	-	-	-	-	-	-	-	1
Region 2	-	-	1	-	-	-	-	3	-	-	-	7
Ft Drum, NY	-	-	-	-	-	-	-	1	-	-	-	4
USMA - West Point, NY	-	-	-	-	-	-	-	-	-	-	-	5
Region 3	-	-	-	-	-	-	-	1	-	-	-	3
JB Langley-Eustis, VA	-	-	-	-	-	-	-	-	-	-	-	1
Region 4	-	-	-	-	-	-	-	-	-	-	-	1
Hurlburt Field, FL	-	-	-	-	-	-	-	-	-	-	-	1
JB Charleston (Navy), SC	-	-	-	-	-	-	-	2	-	-	-	2
Keesler AFB, MS	-	-	-	-	-	-	-	-	-	-	-	1
MacDill AFB, FL	-	-	-	-	-	-	-	-	-	-	-	1
Maxwell AFB, AL	-	-	-	-	-	-	-	2	-	-	-	2
Moody AFB, GA	-	-	-	-	-	-	-	-	-	-	-	1
NH Beaufort, SC	-	-	-	-	-	-	-	1	-	-	-	1
NH Camp Lejeune, NC	-	-	-	-	-	-	-	-	-	-	-	1
NH Jacksonville, FL	-	1	-	-	1	-	-	2	-	-	-	4
Robins AFB, GA	-	-	-	-	-	-	-	-	-	-	-	1
Seymour Johnson AFB, NC	-	-	-	-	-	-	-	1	-	-	-	1
Region 5	-	-	-	-	-	-	-	-	-	-	-	2
Wright-Patterson AFB, OH	-	-	-	-	-	-	-	-	-	-	-	2
Region 6	-	-	-	1	-	-	-	-	1	-	-	2
Altus AFB, OK	-	-	-	-	-	-	-	-	-	-	-	1
Little Rock AFB, AR	-	-	-	-	-	-	-	-	-	-	-	1
Tinker AFB, OK	-	-	-	-	-	1	1	-	-	-	-	3
Region 7	-	-	-	-	-	-	-	-	-	-	-	1
Offutt AFB, NE	-	-	-	-	-	-	-	-	-	-	-	1
Region 8	-	-	-	-	-	-	-	1	-	-	-	1
Buckley AFB, CO	-	-	-	-	-	-	-	-	-	-	-	1
Ellsworth AFB, SD	-	-	-	-	-	-	-	-	-	-	-	2
Peterson AFB, CO	-	-	-	-	-	-	-	-	-	-	-	3
USAF Academy, CO	-	-	-	-	-	-	-	-	-	-	-	1
Region 9	-	-	-	-	1	-	-	-	-	-	-	2
Nellis AFB, NV	-	-	-	-	-	-	-	-	-	-	-	4
Travis AFB, CA	-	-	-	-	-	-	-	-	-	-	-	5
Region 10	-	-	-	-	-	-	-	-	-	-	-	1
Fairchild AFB, WA	-	-	-	-	-	-	-	-	-	-	-	1
Total	3	1	2	1	2	1	2	17	2	1	39	71

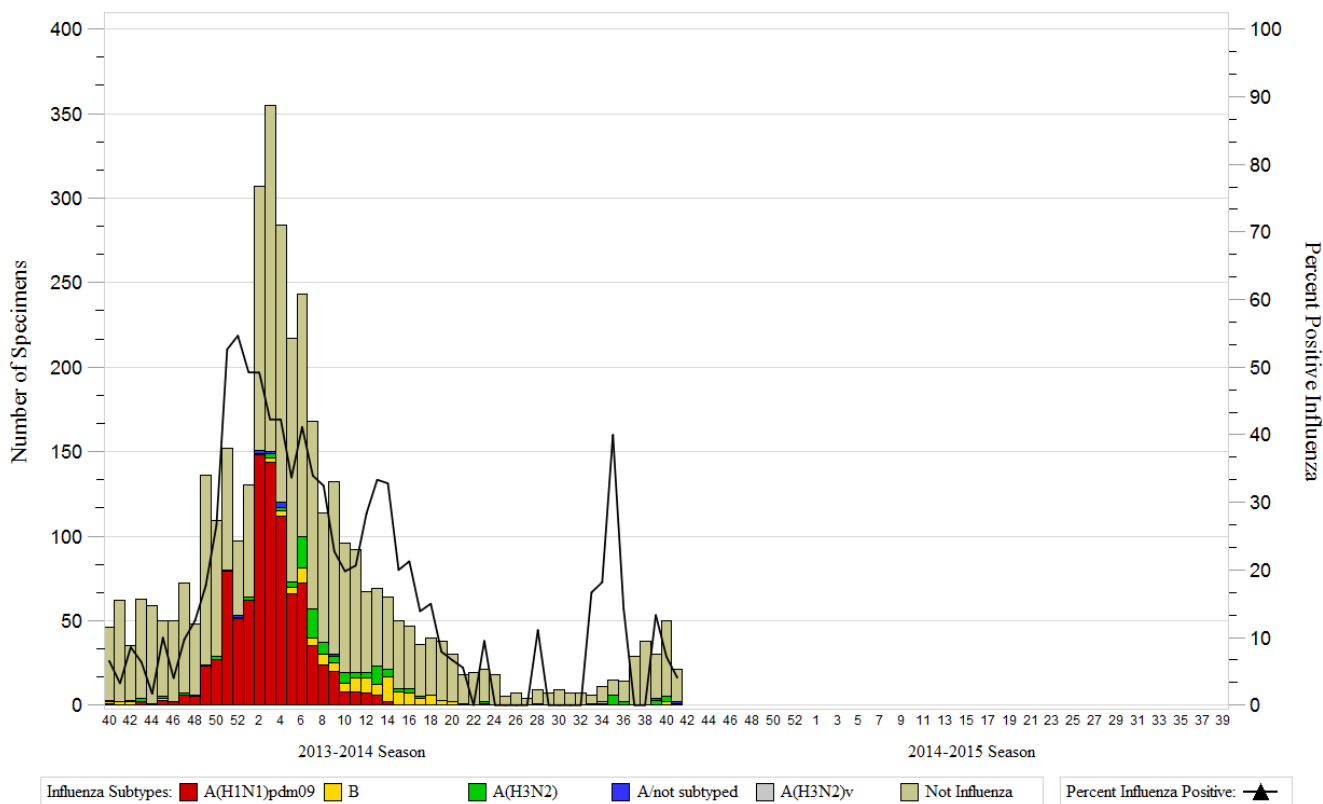
*US Regions are based on Health & Human Services regions. Other locations are defined by COCOM.

Influenza A	4
A(H1N1)pdm09	0
A(H3N2)	3
A/not subtyped	1
Influenza B	3
B/Unknown or pending lineage	2
B & Rhinovirus/Enterovirus	1
B/Victoria	0
B/Yamagata	0
Other Respiratory Pathogens	25
Adenovirus	2
Bordetella Pertussis	0
Chlamydomphila pneumoniae	0
Coronavirus	1
Human Metapneumovirus	0
Mycoplasma pneumoniae	0
Parainfluenza	2
RSV	0
Rhino/Enterovirus	17
Non-influenza Co-infections	3

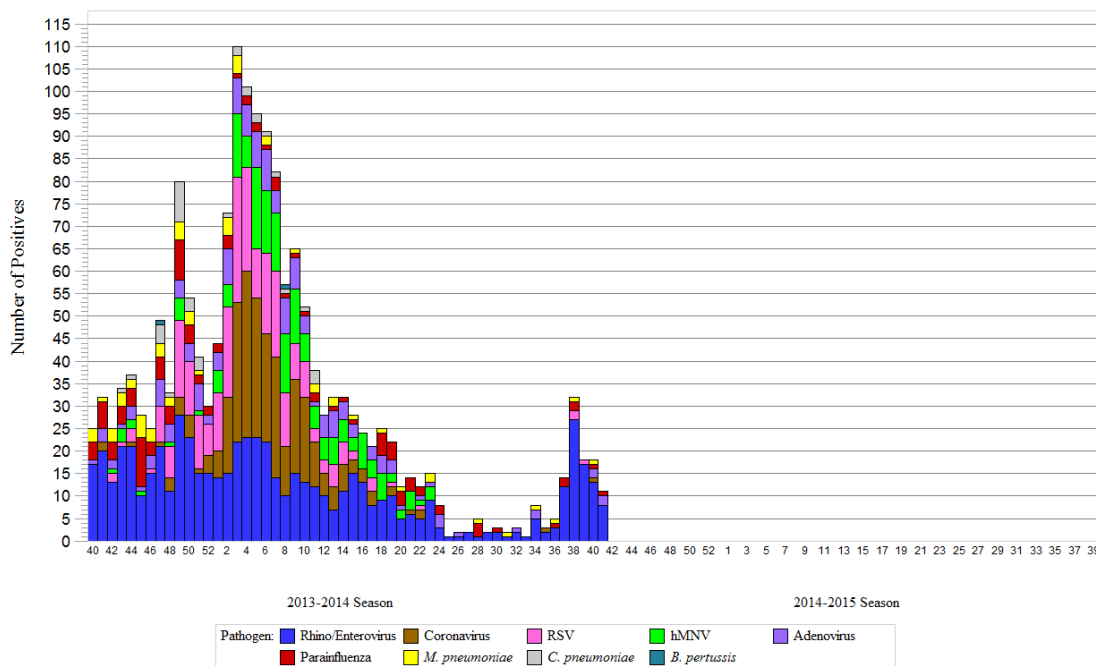
Lab data are current as of 14 October 2014. Results are preliminary and may change as more results are received.

Laboratory Results - Cumulative for Season

Graph 1. Percent influenza positive by week: 2013-2014 surveillance year and through Week 41 of the 2014-2015 surveillance year



Graph 2. Other respiratory pathogen results by week: 2013-2014 surveillance year and through Week 41 of the 2014-2015 surveillance year



Note: Due to change in protocol between the surveillance years 2013-2014 and 2014-2015, a direct comparison between the years cannot be made.

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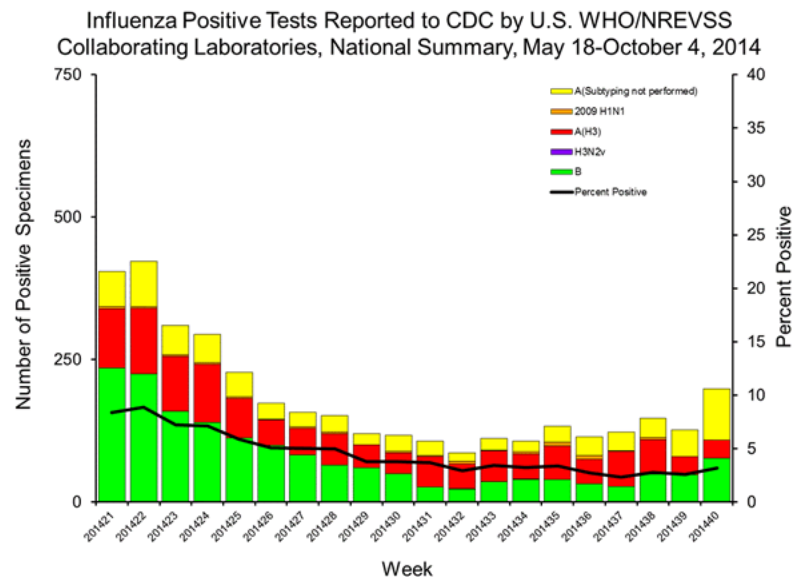
Influenza-Like Illness (ILI) Overview

CDC National Surveillance

During Week 40 (28 September - 4 October 2014), influenza activity was low in the United States. **Viral Surveillance:** Of 6,192 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 40, 199 (3.2%) were positive for influenza.

Pneumonia and Influenza (P&I) Mortality: The proportion of deaths attributed to P&I was below the epidemic threshold. **Influenza-Associated Pediatric Deaths:** No influenza-associated pediatric deaths were reported. **Outpatient Illness Surveillance:** The proportion of outpatient visits for ILI was 1.3%, which is below the national baseline of 2.0%. All 10 regions reported ILI below region-specific baseline levels. Puerto Rico experienced high ILI activity, all 50 states and New York City experienced minimal ILI activity and the District of Columbia had insufficient data.

Geographic Spread of Influenza: The geographic spread of influenza in Guam was reported as widespread; Puerto Rico reported regional activity; three states reported local activity; 28 states, the District of Columbia, and the U.S. Virgin Islands reported sporadic activity; 18 states reported no influenza activity; and one state did not report. See the [CDC report](#) for more information (Week 40 report, cited 16 October 2014).



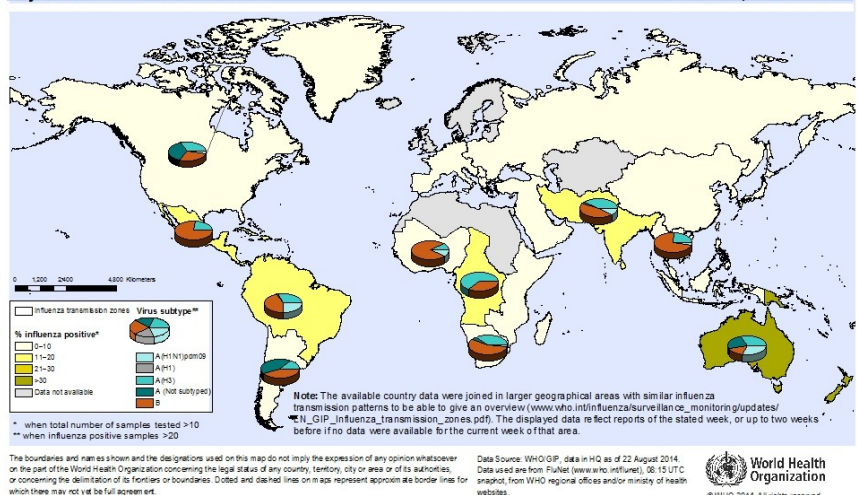
World Health Organization (WHO) Global Surveillance

Report Summary: Globally, the Southern Hemisphere influenza season seems to be coming to an end, with still high activity in Oceania. Elsewhere, influenza activity remained low,

except for some tropical countries in the Americas. In Europe and North America, influenza activity remained at interseasonal levels. In tropical countries of the Americas, influenza B co-circulated with respiratory syncytial virus (RSV). In Africa and Western Asia, influenza activity was low. In Eastern Asia, influenza activity in most countries remained low or decreased following influenza A(H3N2) activity in August and September. In the Southern Hemisphere, influenza activity decreased in most countries. In the temperate zone of South America, ILI decreased and was still mainly associated with RSV. Influenza A (H3N2) virus was the most detected influenza virus. In Australia and New Caledonia, the influenza season continued with high activity associated with A(H1N1)pdm09 and A(H3N2) viruses. ILI activity increased in several of the Pacific Islands. Based on FluNet reporting (as of 2 October 2014), during Weeks 37 and 38 (7 - 20 September 2014), National Influenza Centers (NICs) and other national influenza laboratories from 50 countries, areas or territories reported data. The WHO Global Influenza Surveillance and Response System (GISRS) laboratories tested more than 21,796 specimens. 1,540 were positive for influenza viruses, of which 1,049 (68.1%) were typed as influenza A and 491 (31.9%) as influenza B. Of the subtyped influenza A viruses, 289 (38.9%) were influenza A(H1N1)pdm09 and 454 (61.1%) were influenza A(H3N2). Of the characterized B viruses, 52 (96.3%) belonged to the B/Yamagata lineage and two (3.7%) to the B/Victoria lineage. Additional and updated information on non-seasonal influenza viruses can be found at the [WHO website](#) (6 October 2014 report, cited 9 October 2014).

Percentage of respiratory specimens that tested positive for influenza
By influenza transmission zone

Status as of week 38
14 - 20 September 2014



DoD Global Laboratory-Based Influenza Surveillance Program



USAF School of Aerospace Medicine

2014 - 2015

Respiratory Surveillance
2014-2015 Year
(beginning 28 September 2014)



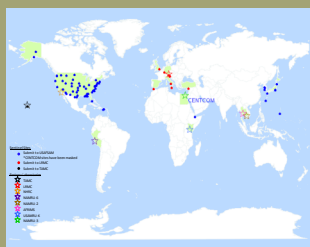
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Contributions to the CDC for National Influenza Surveillance

All sequence data are sent to the CDC and selected original specimens or isolates are sent for further characterization and possible use as influenza vaccine seed viruses. Specimens may also undergo antiviral testing.

[DoD Global Influenza Surveillance Program](https://gumbo2.area52.afnoapps.usaf.mil/epi-consult/influenza)

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Background

The DoD-wide program was established by the Global Emerging Infections Surveillance and Response System (GEIS) in 1997. The surveillance network includes the U.S. Air Force School of Aerospace Medicine (USAFSAM) (sentinel site respiratory surveillance), the Naval Health Research Center (recruit and shipboard population-based respiratory surveillance), the Naval Medical Research Unit (NAMRU-3) in Cairo, Egypt, the Naval Medical Research Unit (NAMRU-2) in Phnom Penh, Cambodia, the Armed Forces Research Institute of Medical Sciences (AFRIMS) in Bangkok, Thailand, the Naval Medical Research Unit-6 (NAMRU-6) in Lima, Peru, and the United States Army Medical Research Unit-Kenya (USAMRU-K) located in Nairobi, Kenya. This work is supported by the Air Force and the Division of Global Emerging Infections Surveillance and Response System (GEIS) Operations, a Division of the Armed Forces Health Surveillance Center (AFHSC).

Sentinel Site Surveillance at USAFSAM

In 1976, the U.S. Air Force Medical Service began conducting routine, global, laboratory-based influenza surveillance. Air Force efforts expanded to DoD-wide in 1997. USAFSAM manages the surveillance program that includes global surveillance among DoD beneficiaries at over 80 sentinel sites (including deployed locations) and many non-sentinel sites (please see map on the left). Unique sentinel sites include three DoD overseas medical research laboratories (AFRIMS, NAMRU-6, USAMRU-K) and the US Army Public Health Command Region South (PHCR-S). These sites collect specimens from local residents in surrounding countries that may not otherwise be covered in existing surveillance efforts.

Since the 2006-2007 season, Landstuhl Regional Medical Center (LRMC) has served EUCOM as a USAFSAM contributing laboratory. The initiative seeks to provide more timely results and efficient transport of specimens.

For an expanded view of this report, visit our website. Also available on the website is a list of previous weekly surveillance reports, program information (including an educational briefing and instruction pamphlets for clinic staff), and an overview of historical data. Please visit the AFHSC/GEIS website for an overview of influenza surveillance at all collaborating organizations.

Errata:

Collaborating Partners

In addition to all participating DoD military sentinel sites, several collaborating partners (described above) may be further understood by reviewing the partner's website.



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